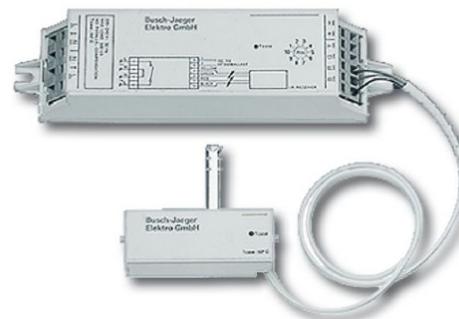


Operating Instructions Busch-Dimmer[®]

Busch-Ferncontrol[®] IR
IR Dimmer 6045-500
Built-in IR receiver
6045 E-101-500



Operating Instructions

Busch-Dimmer®

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1 Safety



Warning

Electric voltage!

Risk of death and fire due to electrical voltage of 230 V.

- Work on the 230V supply system may only be performed by authorised electricians!
- Disconnect the mains power supply prior to installation and/or disassembly!

2 Intended use

The device is to be used exclusively with the components that are supplied and licensed as described in chapter "Setup and function".

3 Environment



Consider the protection of the environment!

Used electric and electronic devices must not be disposed of with domestic waste.

- The device contains valuable raw materials which can be recycled. Therefore, dispose of the device at the appropriate collecting depot.

All packaging materials and devices bear the markings and test seals for proper disposal. Always dispose of the packaging material and electric devices and their components via the authorized collecting depots and disposal companies.

The products meet the legal requirements, in particular the laws governing electronic and electrical devices and the REACH ordinance.

(EU Directive 2002/96/EC WEEE and 2002/95/EC RoHS)

(EU REACH ordinance and law for the implementation of the ordinance (EC) No.1907/2006)

4 Operation

The receiver can only be used with an infrared remote control and wall-mounted transmitter.

All infrared functions (short: IR functions) are available:

- Switching ON
- Switching OFF
- Adjusting BRIGHTER
- Adjusting DARKER
- MEMO storage
- EVERYTHING OFF



Note on the dimming functions

The functions of the controller can only be used in connection with fluorescent lamps with a ballast (1 ... 10 V control input).

The relevant operating manuals of the IR remote control and wall-mounted transmitter provide information about the design of the above-mentioned functions.

5 Technical data

General

Nominal voltage	230 V AC ± 10%, 50 Hz
Nominal power	500 W/VA Fluorescent lamps in genera; no parallel compensation
Control current	50 mA
Setting time	Approximately 5 seconds from basic brightness to maximum brightness
Radio interference suppression	EN 55015
Short-circuit protection	Extend external (primary side type T 3.15 H)
MEMO storage	At mains power failure > 8 hours
Ambient temperature range	0 ... 60°C
Light conducting rod	18 mm; 75° -taper
IR receiving range	Approximately 15 m (0 -line), see Fig. 4

6 Setup and function

The device is intended for the activation of the following type of load:



Electronic ballasts for fluorescent lamps

6.1 Features of function and equipment

IR dimmer (controller)

- For installation in fluorescent lamps
- For controlling electronic ballasts for fluorescent lamps with control output 1-10 V DC
- Operation is only possible via manual or wall-mounted transmitter 6010-... / 6020-... / 6021-...

IR receiver

- For controlling built-in devices 6420 EB / 6056 EB
- With a feed line of approximately 0.5 m (feed line cannot be extended)
- Length of the linear lamp: 30 mm
- Operation is only possible via manual or wall-mounted transmitter 6010-... / 6020-... / 6021-...

6.2 Possible combinations

		
6010-25	X	X
6020-...	X	X
6021-...	X	X
6056 EB		X
6420 EB		X

7 Installation and electrical connection

7.1 Requirements for the electrician



Warning

Electric voltage!

Install the device only if you have the necessary electrical engineering knowledge and experience.

- Incorrect installation endangers your life and that of the user of the electrical system.
- Incorrect installation can cause serious damage to property, e.g. due to fire.

The minimum necessary expert knowledge and requirements for the installation are as follows:

- Apply the "five safety rules" (DIN VDE 0105, EN 50110):
 1. Disconnect from power;
 2. Secure against being re-connected;
 3. Ensure there is no voltage;
 4. Connect to earth and short-circuit;
 5. Cover or barricade adjacent live parts.
- Use suitable personal protective clothing.
- Use only suitable tools and measuring devices.
- Check the supply network type (TN system, IT system, TT system) to secure the following power supply conditions (classic connection to ground, protective earthing, necessary additional measures, etc.).

7.2 Mounting



Warning

Electric voltage!

Risk of death and fire due to electrical voltage of 230 V.

- Work on the 230V supply system may only be performed by authorised electricians!
- Disconnect the mains power supply prior to installation and/or disassembly!



Caution

Risk of damaging the device due to excessive voltages!

The switching of electronic ballasts can cause excessive voltages.

- Use the enclosed RC suppressor to guarantee effective protection for the device, see "Electrical connection".
- Do not use parallel-compensated fluorescent lamps.



Information for the connection of ballasts

- Please observe the following points regarding high inrush currents for ballasts:
- With all-electronic ballasts (2 x 58 W) without an additional filter choke, only one ballast may be connected.
 - With ballasts (2 x 58 W) with an additional filter choke, a maximum of four ballasts may be connected.

1. Install the controller and the receiver in the fluorescent lamp.

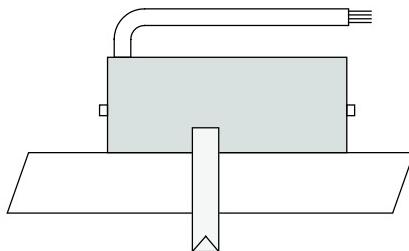


Fig. 1: IR receiver with cable



Note on mounting the receiver.

For trouble-free function (adherence to the receiving characteristics; see Fig. 4) the brightness at the mounting position must not exceed 200 lux.

- Please ensure that there is a sufficiently large distance to the scattered light of the fluorescent lamp, since it contains infrared components and can therefore impair the reception.
- The cable of the IR receiver must under no circumstances be damaged or extended.

Version 1: IR dimmer 6045

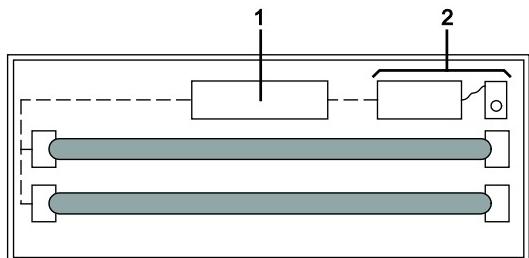


Fig. 2: IR dimmer in fluorescent lamp

1 Electronic ballast | 2 IR dimmer (controller) including receiver

Version 2: IR built-in receiver 6045 E-101

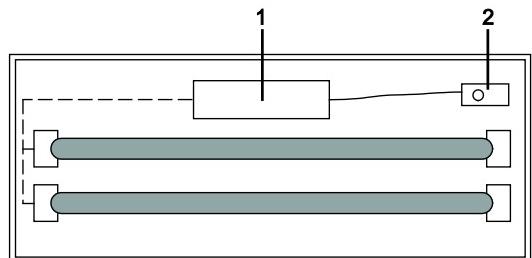


Fig. 3: IR built-in receiver in fluorescent lamp

1 Built-in device (6420 EB / 6056 EB) 2 IR receiver

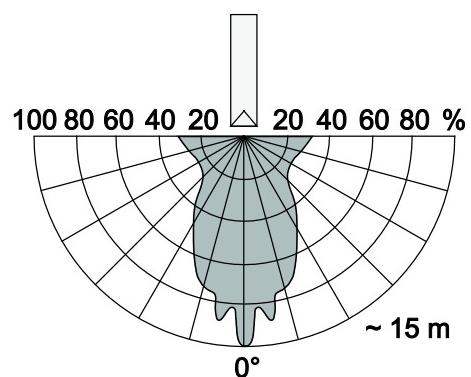


Fig. 4: IR receiving range

8 Connection

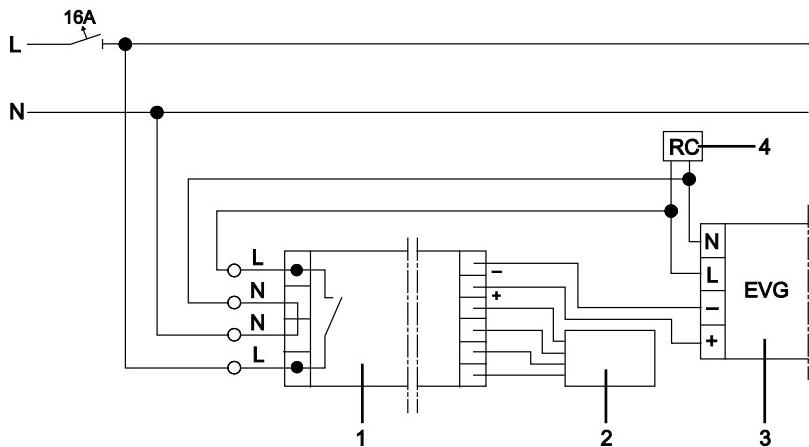


Fig 5: Circuit diagram

1 IR dimmer (controller) | 2 IR receiver | 3 Electronic ballast | 4 RC suppressor

1. Connect the RC suppressor to the electronic ballast.



Caution
Impairment of function!

- Do not install the cable of the receiver parallel to the load line.

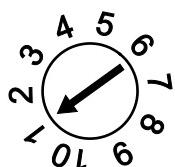
2. Establish the electrical connection between the receiver and the controller.

9 Commissioning

9.1 Addressing

The address of controller is set on number "1" at the factory. The address can be changed with the address wheel on top of the controller.

1. Set the desired address.
2. Observe the "IR receiving range" when addressing, see Fig. 4.



10 Fault rectification

Diagnosis	Possible cause	Fault rectification
LED off	External fuse is defective	Replace fuse
	Strong component of extraneous light	Reduce extraneous light component
	No mains power	Check mains voltage
LED flashes continuously	Permanent extraneous infrared signal	Search for and deactivate extraneous transmitter
LED does not flash at transmission signal	No incoming IR signal	Check position of linear lamp and ensure that it is not covered.
	Battery of IR remote control or wall-mounted transmitter is empty	Replace battery
	IR transmission range exceeded	Reduce the distance between transmitter and receiver.
LED does not flash at transmission signal, receiver / load does not respond	Wrong address at receiver	Correct the address
	Wrong address range on transmitter	Correct the address
	Load is defective	Replace load



Note on reception

The IR receiving range may vary due to extraneous light (e.g., sunlight, illumination).

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